WHAT IS CLAIMED IS:

1. A method for manufacturing a composite optical component comprising: steps of holding a functional device by a holding member to be formed into a composite body; and sandwiching said functional device by said holding member to form said composite body.

2. A method for manufacturing a composite optical component comprising: steps of holding a functional device by a holding member to be formed into a composite body; and caulking said functional device by said holding member to form said composite body.

3. A method for manufacturing a composite optical component comprising: steps of holding a functional device by a holding member to be formed into a composite body; sandwiching said functional device by said holding member; and plastic- deforming said functional device to form said composite body.

4. A method for manufacturing a composite optical component comprising: steps of holding a functional device by a holding member to be formed into a composite body; calking said functional device by said holding member; and plastic- deforming said functional device to form said composite body.

5. A method for manufacturing a composite optical component comprising: steps of holding a functional device by a holding member to be formed into a composite body; press- fitting said functional device into said holding member; and plastic-deforming said functional device to form said composite body.

6. A method for manufacturing a composite optical component comprising: steps of holding a functional device by a holding member to be formed into a composite body; elastic-deforming said holding

member or functional device to fix said holding member and functional device together, heating said functional device; and plastic-deforming to reduce stress between two components, thereby allowing said holding member and functional device to slide-fit with each other.

7. A method for manufacturing a composite optical component according to Claim 6 comprising elastic-deforming said holding member to sandwich said functional device.

8. A method for manufacturing a composite optical component according to Claim 6 comprising elastic-deforming said holding member and caulking said functional device.

9. A method for manufacturing a composite optical component according to Claim 6 comprising elastic-deforming said functional device and press-fitting said functional device into said holding member.

10. A method for manufacturing a composite optical component comprising carrying out the step of Claim 6 and transfer of the shape of a molding die functional surface in the same process.

11. A method for manufacturing a composite optical component according to Claim 1 comprising forming in a rugged shape a part of said functional device assembled with said holding member.

12. A method for manufacturing a composite optical component according to Claim 1 comprising disposing a part of said functional device assembled with said holding member in a symmetrical configuration.

13. A method for manufacturing a composite optical component according to Claim 1 whercin said functional device is an optical device wherein one or more lenses, prisms or mirrors are arranged.

14. A composite optical component comprising an optical component and an enclosure of different materials slidably combined with each other to ensure that the sliding resistance between said optical component and enclosure is $F \leqq a/b \times S \times E$; where "S" denotes the sectional area of the lens unit of a lens component, "E" denotes a longitudinal elastic coefficient of a lens member, and "a" denotes a permissible distortion per length b of said lens member caused by difference of linear expansion due to changes of temperature (Ditto hereafter).

15. A composite optical component according to Claim 14 wherein said optical component and enclosure are fixed at one position, and the sliding resistance of the sliding portions in other areas is kept below $F = a/b \times S \times E$.

16. A composite optical component according to Claim 14 wherein a sliding groove is formed on either of the sliding surfaces between said optical component and enclosure, and a contact protrusion is formed on the other sliding surface, fitted into said sliding groove and connected by mechanical contact to permit sliding only in one direction.

17. A composite optical component according to Claim 14 wherein a contact protrusion is formed on either of the sliding surfaces between said optical component and enclosure, and the sliding surface is subjected to mechanical contact due to elastic force caused by elastic deformation of said contact protrusion so that sliding resistance occurs, wherein said sliding resistance is kept not to exceed said sliding resistance.

18. A composite optical component according to Claim 14

wherein the rib of said optical component is sandwiched and slidably held by the holding part of said enclosure in such a way that the clearance between said rib and said holding part does not exceed 50 μ m.

19. A composite optical component according to Claim 14 wherein said optical component and enclosure are formed into long-sized tabular members.

20. A composite optical component according to Claim 14 wherein said optical component is made of resin material, and the enclosure is made of metallic member.

21. A composite optical component according to Claim 14 wherein said optical component is made of a glass member or a composite material of resin and glass member.

22. A composite optical component according to Claim 14 wherein both said optical component and enclosure are made of resin.

23. A composite optical component according to Claim 14 wherein said enclosure is made of ceramic material.

24. A composite optical component according to Claim 14 wherein said optical component is a single optical member comprising multiple lenses, prisms and mirrors, and the edge of said optical component is slidably held by the holding part of said enclosure.

25. An optical print head, image forming apparatus or image reading apparatus provided with a composite optical component according to Claim 14.

26. A composite optical component wherein an optical functional device is held by a holding member for reinforcement, said composite optical component characterized in that said optical functional device

and holding member are processed to become integrated into one body within the mold, and are slide-fitted with each other.

27. A composite optical component according to Claim 26 wherein the contact surfaces on said slide-fitted portions of said optical functional device and holding member are partly fixed with each other, and remaining contact surfaces are slide-fitted.

28. A composite optical component according to Claim 27 wherein the contact surfaces on said slide-fitted portions of said optical functional device and holding member are partly assembled in a rugged shape or fixed with each other by bonding.

29. A composite optical component according to Claim 26 wherein a groove is formed on part of said holding member or optical functional device, and the protrusion of said optical functional device or holding member is slidably engaged into said groove of said holding member or optical functional device in a composite body.

30. A composite optical component according to Claim 26 wherein the straightness of the contact surface of said holding member slidably in contact with said optical functional device is 10 percent or more lower than that required of the optical function unit of said optical functional device.

31. A composite optical component according to Claim 26 wherein the longitudinal sliding resistance of slide-fitted portions of said optical functional device and holding member does not exceed $\Delta F = a \times S \times E$ per 1mm in the longitudinal direction of said optical functional device where;

"a" denotes the permissible elongation of said optical functional device due to thermal expansion in the optical system (the difference

in thermal expansion of the holding member and optical functional device per unit length),

S represents the sectional area of the function unit of the optical functional device, and

E shows a modulus of elasticity (longitudinal elastic coefficient) of the material of said optical functional device.

32. A composite optical component according to Claim 26 wherein the portion of said optical functional device in contact with the holding member is composed of a resin material.

33. A composite optical component according to Claim 26 wherein

said holding member is made of metallic material.

34. A composite optical component according to Claim 33 wherein said holding member is obtained by stamping the product molded by aluminum-extrusion or extrusion.

35. A composite optical component according to Claim 33 wherein said holding member is made of stamped sheet metal.

36. A composite optical component according to Claim 26 wherein said holding member is made of resin material reinforced with glass fiber.

37. A composite optical component according to Claim 26 wherein the function unit of said optical functional device is made of resin material.

38. A method for manufacturing a composite optical component wherein the optical function device and holding member are processed into one integral body by a mold;

said method further characterized by manufacturing the

composite optical component according to Claim 26, wherein transfer of the optical function surface of the molding die for said optical functional device and slide-fitting between the optical functional device and holding member are provided in one and same molding step.

39. A method for manufacturing a composite optical component according to Claim 38 wherein transfer of the optical function surface of the molding die for said optical functional device and slide-fitting between the optical functional device and holding member are provided in one and same molding step using different mechanisms.

40. A method for manufacturing a composite optical component according to Claim 38 wherein the optical function surface of a molding die is transferred to a spare molded product of said optical functional device after said spare molded product of said optical functional device is inserted into said holding member.

41. A method for manufacturing a composite optical component according to Claim 40 wherein said spare molded product is made of resin material, and the optical functional surface of a molding die is transferred by moving said molding die having the shape of optical functional surface, and applying pressure to the optical functional surface of said molded product.

42. A method for manufacturing a composite optical component according to Claim 41 wherein pressure is applied to the functional surface-compatible portion of said spare molded product and the vicinity thereof, after having been heated in excess of the glass transition point of the resin material being used.

43. A method for manufacturing a composite optical component according to Claim 40 wherein the shape of said spare molded product

is close to the final shape of the optical functional device.

44. A method for manufacturing a composite optical component according to Claim 43 wherein said spare molded product is an injection molded product.

45. A method for manufacturing a composite optical component according to Claim 38 wherein heat and pressure are applied to several positions in the vicinity of the contact surface of said optical functional device in contact with said holding member to cause waveform deformation, thereby ensuring slide-fitting between said optical functional device and holding part of said holding member.

46. A method for manufacturing a composite optical component according to Claim 38 wherein external force is applied to the vicinity of the contact surface of said optical functional device in contact with said holding member to ensure that said optical functional device is slide-fitted to the holding part of the holding member.

47. A method for manufacturing a composite optical component according to Claim 38 wherein external force is applied to the vicinity of the contact surface of said holding member in contact with the optical functional device to ensure that said optical functional device is slide-fitted to the holding part of said holding member.

48. A method for manufacturing a composite optical component according to Claim 38 wherein the resin moved by application of pressure to the functional surface of said optical functional device or application of said external force to other positions than the functional surface is brought into mechanical contact with the internal side surface of said holding member in such a way that said optical functional device is slide-fitted to the holding part of said holding

member.

49. A method for manufacturing a composite optical component according to Claim 38 wherein, while said optical functional device is kept in mechanical contact with the internal side surface of the holding part of said holding member by molding for integration with said holding member, the holding part of said holding member is supported from the outside, thereby preventing said holding part from being deformed.

50. A method for manufacturing a composite optical component according to Claim 45 wherein at least a part in the vicinity of the contact surface of said optical functional device in contact with the holding member is heated in excess of the thermal deformation temperature of the material resin.

51. A composite optical component of Claim 26 manufactured according to Claim 38.

52. A longs-sized composite optical component according to Claim 51 wherein the longitudinal length is 50mm or more.

53. A composite optical component according to Claim 51 wherein said optical functional device comprises either lenses, prisms or mirrors arranged in multiple numbers.

54. An optical writing unit equipped with a composite optical component according to Claim 53.

55. An optical reading unit equipped with a composite optical component according to Claim 53.

56. An image forming apparatus equipped with an optical writing unit according to Claim 54.

57. An image reading apparatus equipped with the optical

reading unit according to Claim 55.